372 Fire drill.- Hearth (a·da·wa·yat) for fire-drill made from piece of dry cottonwood root (utu·lan wi·šin) from Populus fremontii; single hole in hearth; powder dropped into channel leading to edge of hearth. [illegible] (a·da·wa·yišt) 2-2 1/2 ft. long, made [illegible] of Baccharis glutinosa Pers. or B. [illegible] DC. Shredded cottonwood roots used for tinder.

413 Arrow straightener.- Arrow straightener (u·gišt) similar to Cahuilla straightener
[171] (Kroeber, Handbook, 530, pl. 49d); made from soft rock (steatite?; slate, FC), obtained near
324 Chimney canyon in Tübatulabal area. Central groove (loho·wi·nil) and incised lines on top surface of straightener cut with flint knife.
[171] SM's straightener, duplicate of steatite specimen from s. San Joaquin valley (Gifford and Schenck, pl. 17o), 3 in. long, 1 1/2 in. wide, 1 1/2 in. high at center, 1 in. wide at ends; single transverse groove 1/2 in. deep cut across top center, dividing convex top surface into 2 halves. Series of diagonal parallel lines, incised to depth of 1/16 in., cover one of halves of top surface; on other half series of 11 short parallel ridges cut out in low relief; incised
[171] lines and serrated ridges used for same purpose as noted among Yokuts (Kroeber, Handbook, 530). FC's straightener round, with 2 grooves; lacked incised lines, ridges; specimen 1-19802, 4 in. long, 1 1/2 in. high, has single groove, no lines; specimen 1-19803 is 4 in. long, 1/2 in. high, has 2 grooves; SM said some little individual variation in size, markings on straighteners, depending on man's preferences.

413 Netting shuttle.- No information obtainable;
● 286 SM thought some variety of shuttle formerly used.

FIRE

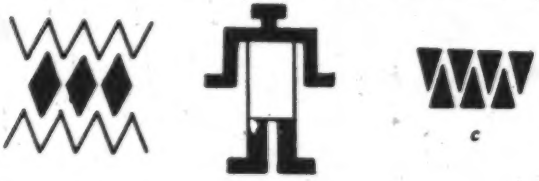
221 In winter, small fire inside dwelling served
372 for cooking, heating, and lighting house at night;
373 in summer, cooking fire often built outside under shade. Women also often cooked acorn mush at spot where they leached meal. During summer hand games played at night around fire, outside in open; brush enclosures illuminated at night by
[756] fire built in center; sweat house heated, illuminated by open fire. Shamans used small open fire during shooting contests. Torches used for hunting quail (p. 13), but not for lighting.

372 Firemaking.- Fire made by men only, with
462 simple hand drill (supra); man knelt (Kroeber,
177 Handbook, 822, pl. 78); SM said it took from 15-20 minutes to make fire with drill, but this seems unlikely. In 19th century Tübatulabal learned to make fire from Mexicans by striking upper edges of 2 white quartz strike-a-lights (ki·li·l) together (fig. 7a); "the Mexicans used one of these pieces of stone against a piece of

handle (fig. 8a), used for drying sweet substance obtained from cane (p. 19).

(e) Saddles were formerly made from tules. In contrast to twined ware, all of which was plain, all coiled ware except piñon jars had designs in red, or red and black basketry material; money jars further decorated with row of black mt. quail crests and, in post-white times, red yarn, inserted around shoulders. Pieces of abalone shell, shell or glass beads not used for decoration.

Either informants had forgotten them, or else few designs had names; when shown some 26 designs taken from Tübatulabal basketry collections, SM recognized 3 (fig. 9) which had descriptive names, king snake design (pokpo·go´no·lo·wun),



a b c

Fig. 9. Basket design elements. a, rattlesnake; b, little boy; c, kingsnake.

little boy design (anayhi·lo·wun), rattlesnake design (cĭmĭndiŋlo·wun), "a hard pattern" (ES). Human figure design aboriginal (SM); pictographs of human figures in territory tend to confirm this, although Kroeber holds human figures on baskets result of American influence (Kroeber, Handbook, 541). ES recognized several Yokuts designs (Kroeber, Handbook, 533, fig. 47, nos. 1, 8, 15, 16) which she had seen on Tübatulabal baskets, but did not know names for them.

Mats.- Mats (paht) were made from whole dried trimmed tules, which were soaked before being woven; mats 3-5 ft. wide, of varying lengths, made in plain twined weave with each series of tule weft elements spaced about 3 in. apart. Top, bottom edges finished with tule braid (ta·ža·bil). Specimen 1-21064, large tule mat used for house covering, has braid edge, as has fragment of mat 1-28574; specimen 1-28575, also fragment, has wrap edge. Large mats used to cover walls, floors of living houses, to sit on while working outside, to sleep on. Small tule mats bordered with tule braid, but lacking weft bandings, used on both types baby cradles; hood for baby's second cradle also of tules.

Rabbitskin blanket.- Fur blankets (wihnibĭ·l) made from jackrabbit skins; woven on 4-post frame (fig. 10), chiefly by men. About 12 (SM), 40 (FP) skins needed for blanket, which was "as big as woolen double blanket" (MM), 6 x 8 ft. (SM). Jacks skinned, making cut down belly; fresh skin cut from head to tail into strips 1 1/2 in. wide, about 15 in. long; these rolled

[p. 33(a)]

281 on thigh immediately and ends tied together to
286 make long strip which was stretched between 2 trees to dry for 2-3 days (SM). FP said whole skins dried first, then cut into strips which were rolled, then tied together.

a b

Fig. 10. Rabbitskin blanket weaving frame. a, model of frame, with beginning of warp setup shown (x); b, completed warp setup.

To set up warp (fig. 10), 4 posts 3 ft. high set in ground several feet apart to form square or rectangle of same size as blanket would be; length of native twine tied around post, near top, then run around outside of 4 posts; when it was brought back to starting point twine was passed under and over string on 2 opposite sides of frame until complete warp set up. Rabbitskin weft element then tied to warp at one corner and twined under and over warp threads. SM, who set up model of frame and warp, did not know whether weft was tied to each warp at point of intersection. Blankets used as capes, bed coverings. Squirrelskin, feather blankets not made (SM, FP, PN).

531 Beadwork formerly lacking (SM); ES had learned
177 to make beaded hat bands on bow loom (Steward, 1933, 273, fig. 6) from her sister-in-law, an Owens Valley Paiute who occasionally visited among Tübatulabal.

286 Nets.- Nets made, used by men; manufactured from 2-ply native twine. Rabbit net was 200 ft. long, 3-3 1/2 ft. wide, with 3-in. loops; man's
[171] carrying net similar to Koso net (Kroeber, Handbook, 591, fig. 53): was tied at both ends with twine and had 2 ends tied together; net carried over shoulder (SM). Fish nets, according to FP, who could not remember names for them, were of 2 types (p. 14), but details of their manufacture could not be obtained.

283 Pack strap.- Pack strap (pongon) made from
482 native rope with forehead band (le·winiŝt) which was flat, 1 in. wide, made from 4 strands of native twine. Used with pack basket.

Twine, cordage.- String (u·wil) made from in-
[171] ner fibers of milkweed shoots (ma·wil), Apocynum cannabinum L., foothill floral area, as among Northfork Mono (Gifford, 1932 b, 28); twine always 2-ply, but of varying thickness depending on use for which it was intended. As length of cord grew when it was being rolled out on thigh,

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T Y 343 no door, the doorway being merely an opening between the rafters (there probably was a doorway frame of some sort). The fire was in front of the center post. Firewood was kept in two T Y [354] piles, one on each side of the entrance; men sitting next to these put wood on the fire.

T Y 515 Men did not indulge in sweats until they were twenty-five to thirty years old. Evening [late afternoon?] was the most popular time for a sweat, after which they would swim and return home to sleep. While in the sweat house men usually "just lay around." Sometimes, merely T Y 517 to entertain others or to practice, a man would dance the ha´t·m (the "piston-rod step" of Powers) if someone would sing for him. For such a performance there was no costume; it had no ritual significance. No games were played in the sweat house, nor was smoking indulged in -- "it was too strong in there."

MISCELLANEOUS DATA

T Y 524 Games.---Women played huču´w·s, the walnut-shell dice game, in the daytime only.

T Y 323 Pottery.---Pottery was made at Sototlo by women. The pounding of the clay paste, the coiling process were the only details remembered.

T Y 436 Money.---The small disc money of clamshells was measured by doubling a strand and then slipping it into a series of chain-stitch loops. A "rope" long enough to reach from the wrist to the shoulder, was worth $2.00 in "American money." Such a strand was exchanged for an eagle's leg with the down still intact.

T Y 286 Blankets.---F.M. did not know how "woven" skin blankets were made, save that strips of rabbitskin or wildcatskin were used in them.

T Y 805 Calendar.---A calendrical system of months based on moons was used in the old days. The only name he remembers was that for the month roughly coincident with February: kala´sa, meaning "blows it all away" or "cleaned up," because it was a period of high winds, trees were bare, and the leaves all blown away.

T Y 301 Hair nets.---These were used "everywhere" for the basis of feather head ornaments. A single hairpin (tsama´ni) held the ornament in place. Neither the net nor hairpin was used for ordinary dress, nor by women.

T Y [237] Yellowhammer strips.---Ornamental bands of sewn yellowhammer feathers (paiya´mən) were known but rarely used.[130] A doctor who owned one would wear it for the dancing on the night of celebration following a mourning ceremony. It was never used when the doctor was dressed for curing; it was "just to look pretty." The band was worn around the head with the ends hanging down the back.

T Y 534 Musical instruments.---The flute (uṭoi´´i) was made of elderwood; number of holes not

[130] Cf. Koso specimen (ibid., pl. 58).